

AMENDMENTS TO THE CLAIMS

Claims 1-16 (Canceled)

17. (currently amended) An ion-ion plasma source, comprising:

a processing chamber comprising halogen based gas;

an electron source operable to provide an electron beam in said processing chamber, the electron beam having a current density of approximately .1 A/cm²; and

an electron beam confiner operable to ~~generate~~ apply a magnetic field at the electron beam ~~thereby maintaining a current density of said electron beam at approximately 0.1 A/cm² to generate a confined electron beam in said processing chamber, to ionize the halogen based gas to generate an ion-ion plasma that substantially comprises negative ions.~~

18. (previously presented) The ion-ion plasma source of claim 17, wherein said processing chamber is operable to maintain a gas pressure of approximately 50 mtorr.

19. (currently amended) An ion-ion plasma source, comprising:

a processing chamber comprising halogen based gas;

an electron source operable to provide an electron beam in said processing chamber, the electron beam having a current density of approximately .1 A/cm²; and

an electron beam confiner operable to ~~generate~~ apply a magnetic field at approximately 200 G, ~~the magnetic field is applied to said electron beam thereby maintaining said electron beam at approximately 1 meter~~ to generate a confined electron beam in said processing

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chamber, to ionize the halogen based gas to generate an ion-ion plasma that substantially comprises negative ions.